Abstract of the Disclosure

Disclosed are methods and compositions for protecting cognitive function in a mammal, particularly a human, subject to brain tissue damage, by administering a morphogen or a nucleic acid encoding a morphogen to the mammal. The methods and compositions can be used to reduce memory dysfunction and/or to provide a neuroprotective effect in subjects at risk of memory dysfunction resulting from mechanical or chemical trauma, neuropathies, neurodegenerative diseases, or oxygen or glucose deprivation.